

Applicants: Katschorek et al.
Serial No.: 10/570,111
Filed: March 1, 2006
Response to Office Action dated December 9, 2009
Page 2 of 8

LISTING OF CLAIMS:

The following listing of claims will replace all prior versions and listings of claims in the application:

What is claimed is:

1. (Currently Amended) A process for the production of a personalised, optically variable element having polarising properties, wherein

to produce the optically variable element a film body which comprises two or more layers and which has an LCP layer comprising a liquid crystal material is applied to a substrate body which has an orientation layer for the orientation of liquid crystals, that the orientation layer of the substrate body is personalised prior to application of the film body to the substrate body, and that the film body is applied to the personalised orientation layer of the substrate body in such a way that the LCP layer of the film body lies on the personalised orientation layer of the substrate body for the orientation of liquid crystals of the LCP layer of the film body, wherein after the application of the film body to the personalised orientation layer the LCP layer is liquefied, oriented and solidified, wherein the orientation layer of the substrate body is personalised by partial printing on the orientation layer.

2. (Cancelled)

3. (Currently Amended) A process for the production of a personalised, optically variable element having polarising properties, wherein

to produce the optically variable element a film body which comprises two or more layers and which has an LCP layer comprising a liquid crystal material is applied to a substrate body which has an orientation layer for the orientation of liquid crystals, that the orientation layer of the substrate body is personalised prior to application of the film body to the substrate body, and that the film body is applied to the personalised orientation layer of the substrate body in such a

Applicants: Katschorek et al.

Serial No.: 10/570,111

Filed: March 1, 2006

Response to Office Action dated December 9, 2009

Page 3 of 8

way that the LCP layer of the film body lies on the personalised orientation layer of the substrate body for the orientation of liquid crystals of the LCP layer of the film body, wherein after the application of the film body to the personalised orientation layer the LCP layer is liquefied, oriented and solidified, wherein the orientation layer of the substrate body is personalised by partial transfer of a differently oriented orientation layer on to the orientation layer of the substrate body.

4. (Currently Amended) A process for the production of a personalised, optically variable element having polarising properties, wherein

to produce the optically variable element a film body which comprises two or more layers and which has an LCP layer comprising a liquid crystal material is applied to a substrate body which has an orientation layer for the orientation of liquid crystals, that the orientation layer of the substrate body is personalised prior to application of the film body to the substrate body, and that the film body is applied to the personalised orientation layer of the substrate body in such a way that the LCP layer of the film body lies on the personalised orientation layer of the substrate body for the orientation of liquid crystals of the LCP layer of the film body, wherein after the application of the film body to the personalised orientation layer the LCP layer is liquefied, oriented and solidified, wherein the orientation layer of the substrate body is personalised by partial mechanical removal of the orientation layer.

5. (Currently Amended) A process for the production of a personalised, optically variable element having polarising properties, wherein

to produce the optically variable element a film body which comprises two or more layers and which has an LCP layer comprising a liquid crystal material is applied to a substrate body which has an orientation layer for the orientation of liquid crystals, that the orientation layer of the substrate body is personalised prior to application of the film body to the substrate body, and that the film body is applied to the personalised orientation layer of the substrate body in such a

Applicants: Katschorek et al.

Serial No.: 10/570,111

Filed: March 1, 2006

Response to Office Action dated December 9, 2009

Page 4 of 8

way that the LCP layer of the film body lies on the personalised orientation layer of the substrate body for the orientation of liquid crystals of the LCP layer of the film body, wherein after the application of the film body to the personalised orientation layer the LCP layer is liquefied, oriented and solidified, wherein the orientation layer of the substrate body is personalised by partial thermal deformation of the orientation layer.

6. (Previously Presented) A process according to claim 1, wherein the orientation layer of the substrate body is personalised by replication of a relief structure into the orientation layer.

7. (Previously Presented) A process according to claim 1, wherein the orientation layer of the substrate body is personalised by exposure of the orientation layer.

8. (Previously Presented) A process according to claim 1, wherein alignment of the liquid crystal material of the LCP layer of the film body is effected at the personalised orientation layer of the substrate body and wherein the aligned liquid crystal material of the LCP layer is then fixed.

9. (Previously Presented) A process according to claim 8, wherein the LCP layer of the film body is heated after application of the film body to the substrate body for alignment of the liquid crystals.

10. (Previously Presented) A process according to claim 8, wherein a stamping film, laminating film or sticker film is used as the substrate body.

Applicants: Katschorek et al.
Serial No.: 10/570,111
Filed: March 1, 2006
Response to Office Action dated December 9, 2009
Page 5 of 8

11. (Previously Presented) A process according to claim 10, wherein the stamping film, laminating film or sticker film forming the substrate body is applied to a security document prior to application of the film body to the substrate body.

12. (Previously Presented) A process according to claim 1, wherein the substrate body has a carrier layer forming a security document.

13. (Previously Presented) A process according to claim 1, wherein the film body used is a stamping film, laminating film or sticker film which is applied to the substrate body in a hot stamping or laminating process.

14 - 20. (Canceled)

21. (Previously Presented) A process for the production of a personalised, optically variable element having polarising properties, the process comprising:

personalizing an orientation layer of a substrate body, the orientation layer being capable of orienting liquid crystal material;

applying a film body comprising two or more layers and a LCP layer to the substrate body, wherein the LCP layer comprises a liquid crystal material, wherein said personalizing step precedes said applying step, said applying step including positioning the LCP layer directly onto the personalized orientation layer; and

orienting the liquid crystal material in the LCP layer in response to said positioning step, whereby after the application of the film body to the substrate body, the LCP layer is liquefied, oriented and solidified.

22. (Previously Presented) A process according to claim 21, wherein said personalizing step comprises partial printing on the orientation layer.

Applicants: Katschorek et al.

Serial No.: 10/570,111

Filed: March 1, 2006

Response to Office Action dated December 9, 2009

Page 6 of 8

23. (Previously Presented) A process according to claim 21, wherein said personalizing step comprises partial transfer of a differently oriented orientation layer on to the orientation layer of the substrate body.

24. (Previously Presented) A process according to claim 21, wherein said personalizing step comprises partial thermal deformation of the orientation layer.